WHAT IS CLAIMED IS:

1. An image processing circuit, comprising:

a control-signal generating device that generates a control signal indicating the type of an electro-optical panel used in combination with the image processing circuit;

a D/A conversion device that converts input image data from a digital signal to an analog signal to generate an image signal and that adjusts a range where the signal level of the image signal is changed, according to the control signal; and

a processing device that generates an output image signal to be sent to the electro-optical panel, according to the image signal.

2. An image processing circuit according to Claim 1, the processing device further comprising:

an image-signal inversion section that inverts a signal polarity of the image signal at an inversion period determined in advance, with a certain potential being used as a reference while amplifying the image signal to generate an inverted image signal;

a reference-signal generating section that generates a first reference voltage and a second reference voltage according to the control signal, and that alternately selects one of the first reference voltage and the second reference voltage at the inversion period to generate a reference signal; and

an output-image-signal generating section that synthesizes the inverted image signal with the reference signal to generate the output image signal.

3. An image processing circuit according to Claim 2, the reference-signal generating section further comprising:

a power-supply section that generates a positive-polarity reference voltage higher than a reference potential determined in advance according to the type of the electro-optical panel by a minimum applied voltage, and that generates a negative-polarity reference voltage lower than the reference potential by the minimum applied voltage;

a first selection section that selects a voltage corresponding to the electro-optical panel used in combination with the image processing circuit among the positive-polarity reference voltages, according to the control signal to generate the first reference voltage, and that selects a voltage corresponding to the electro-optical panel used in combination with the image processing circuit among the negative-polarity reference voltages, according to the control signal to generate the second reference voltage; and

a second selection section that alternately selects one of the first reference voltage and the second reference voltage at the inversion period to generate the reference signal; and

wherein the minimum applied voltage is specified for each electro-optical panel, and is the lowest voltage required to be applied to the electro-optical material of the electro-optical panel to obtain a range of transmittance used for displaying images.

4. An image processing circuit according to Claim 3, the minimum applied voltage being a voltage corresponding to a saturation transmittance of the electro-optical material.

5. An image processing circuit according to Claim 3, the power-supply section comprising:

a first voltage source that generates a first voltage higher than a reference potential determined in advance according to the type of the electro-optical panel by a maximum applied voltage;

a second voltage source that generates a second voltage lower than the reference potential by the maximum applied voltage;

a subtraction section that subtracts a change voltage determined in advance according to the type of the electro-optical panel from the first voltage to generate the positive-polarity reference voltage; and

an adder section that adds the change voltage to the second voltage to generate the negative-polarity reference voltage; and

wherein the maximum applied voltage is the highest voltage required to be applied to the electro-optical material to obtain a range of transmittance used to display images, according to the type of the electro-optical panel.

6. An image processing circuit, comprising:

a control-signal generating device that generates a control signal indicating the type of input image data;

a data conversion device that converts the data values of the input image data into data values related thereto in advance, according to the control signal to generate converted image data;

a D/A converter that converts the converted image data from a digital signal to an analog signal to generate an image signal and that adjusts a range where the signal level of the image signal is changed, according to the control signal; and

a processing device that generates an output image signal to be sent to an electro-optical panel, according to the image signal.

7. An image processing circuit according to Claim 6, the processing device further comprising:

an image-signal inversion section that inverts the signal polarity of the image signal at an inversion period determined in advance, with a certain potential being used as a reference while amplifying the image signal to generate an inverted image signal;

a reference-signal generating section that generates a first reference voltage and a second reference voltage which are set to voltage values corresponding to the type of the input image data, according to the control signal, and that alternately selects one of the first reference voltage and the second reference voltage at the inversion period to generate a reference signal; and

an output-image-signal generating section that synthesizes the inverted image signal with the reference signal to generate the output image signal.

8. An image processing circuit according to Claim 7, the reference-signal generating section further comprising:

a power-supply section that generates a positive-polarity reference voltage higher than a reference potential determined in advance according to the type of the input image data by a minimum applied voltage, and that generates a negative-polarity reference voltage lower than the reference potential by the minimum applied voltage;

a first selection section that selects a voltage corresponding to the type of the input image data among the positive-polarity reference voltages according to the control signal to generate the first reference voltage, and that selects a voltage corresponding to the type of the input image data among the negative-polarity reference voltages according to the control signal to generate the second reference voltage; and

a second selection section that alternately selects one of the first reference voltage and the second reference voltage at the inversion period to generate the reference signal; and

wherein the minimum applied voltage is the lowest voltage required to be applied to the electro-optical material of the electro-optical panel to obtain a range of transmittance used to display images for each type of the input image data.

9. An image processing circuit according to Claim 8, the power-supply section further comprising:

a first voltage source that generates a first voltage higher than a reference potential determined in advance according to the type of the input image data by a maximum applied voltage;

a second voltage source that generates a second voltage lower than the reference potential by the maximum applied voltage;

a subtraction section that subtracts a change voltage determined in advance according to the type of the input image data from the first voltage to generate the positive-polarity reference voltage; and

an adder section that adds the change voltage to the second voltage to generate the negative-polarity reference voltage; and

wherein the maximum applied voltage is the highest voltage required to be applied to the electro-optical material to obtain a range of transmittance used to display images for each type of the input image data.

10. An image processing circuit according to Claim 8, the control signal indicating whether the input image data is based on at least one of computer graphics and a video signal.

11. An image processing circuit according to Claim 10, the input image data being sent from the outside together with a vertical synchronization signal indicating a vertical blanking period of the input image data, and

the control-signal generating device detecting the period of the vertical synchronization signal and generates the control signal according to the result of detection.

12. An image processing circuit, comprising:

a mean value generating device that calculates the mean gray scale value of an image according to input image data and that generates a mean value signal indicating the mean gray scale value;

a data conversion device that converts the input image data to converted image data according to the mean value signal under a conversion rule based on the mean gray scale value;

a D/A converter that converts the converted image data from a digital signal to an analog signal to generate an image signal; and

a processing device that generates an output image signal to be sent to an electro-optical panel, according to the image signal.

13. An image processing circuit according to Claim 12, the mean value generating device calculating the mean gray scale value of an image according to input image data in one screen.

14. An image processing circuit according to Claim 12, the processing means further comprising:

an image-signal inversion section that inverts the signal polarity of the image signal at an inversion period determined in advance, with a certain potential being used as a reference while amplifying the image signal to generate an inverted image signal;

a reference-signal generating section that generates a first reference voltage and a second reference voltage which are set to voltage values corresponding to the mean gray scale value, according to the mean value signal, and that alternately selects one of the first reference voltage and the second reference voltage at the inversion period to generate a reference signal; and

an output-image-signal generating section that synthesizes the inverted image signal with the reference signal to generate the output image signal.

15. An image processing circuit according to Claim 14, the reference-signal generating section further comprising:

a minimum-applied-voltage generating section that generates the minimum voltage to be applied to the electro-optical material of the electro-optical panel according to the mean value signal under a conversion rule based on the mean gray scale value;

a reference-voltage generating section that generates the first reference voltage by adding the minimum applied voltage to a reference potential determined in advance, and that generates the second reference voltage by subtracting the minimum applied voltage from the reference potential; and

a selection section that alternately selects one of the first reference voltage and the second reference voltage at the inversion period to generate the reference signal.

16. An image processing method that generates an output image signal to be sent to one type of electro-optical panel selected from among a plurality of types of electro-optical panels determined in advance and having electro-optical materials in which their transmittances are changed according to an applied voltage, the image processing method comprising the steps of:

converting image input data from a digital signal to an analog signal to generate an image signal, and adjusting a range where the signal level of the image signal is changed, according to the type of the electro-optical panel;

inverting the signal polarity of the image signal with a certain potential being used as a reference at an inversion period determined in advance while amplifying the image signal to generate an inverted image signal;

alternately selecting one of a positive-polarity reference voltage higher than a reference potential determined in advance according to the type of the electro-optical panel by a minimum applied voltage, and a negative-polarity reference voltage lower than the reference potential by the minimum applied voltage, at the inversion period to generate a reference signal; and

synthesizing the inverted image signal and the reference signal to generate the output image signal;

wherein the minimum applied voltage is specified for each electro-optical panel, and is the lowest voltage required to be applied to the electro-optical material to obtain a range of the transmittance to be used to display images.

17. An image processing method for generating an output image signal to be sent to an electro-optical panel having an electro-optical material in which a transmittance of the electro-optical material is changed according to an applied voltage, comprising the steps of:

converting input image data to converted image data according to a conversion rule based on the type of the input image data;

converting the converted image data from a digital signal to an analog signal to generate an image signal;

inverting the signal polarity of the image signal with a certain potential being used as a reference at an inversion period determined in advance while amplifying the image signal to generate an inverted image signal;

alternately selecting one of a positive-polarity reference voltage higher than a reference potential determined in advance according to the type of the input image data by a minimum applied voltage determined in advance according to the type of the input image data, and a negative-polarity reference voltage lower than the reference potential by the minimum applied voltage, at the inversion period to generate a reference signal; and

synthesizing the inverted image signal and the reference signal to generate the output image signal;

wherein the minimum applied voltage is specified for each type of the input image data, and is the lowest voltage required to be applied to the electro-optical material to obtain a range of the transmittance to be used for displaying images.

18. An image processing method for generating an output image signal to be sent to an electro-optical panel having an electro-optical material in which a transmittance of the electro-optical material is changed according to an applied voltage, comprising the steps of:

calculating a mean gray scale value of an image according to input image data;

converting the input image data to an converted image data according to a conversion rule based on the mean gray scale value;

converting the converted image data from a digital signal to an analog signal to generate an image signal;

inverting the signal polarity of the image signal with a certain potential being used as a reference at an inversion period determined in advance while amplifying the image signal to generate an inverted image signal;

alternately selecting one of a positive-polarity reference voltage higher than a reference potential determined in advance by a minimum applied voltage determined in advance according to the mean gray scale value, and a negative-polarity reference voltage lower than the reference potential by the minimum applied voltage, at the inversion period to generate a reference signal; and

synthesizing the inverted image signal and the reference signal to generate the output image signal;

wherein the minimum applied voltage is specified for each mean gray scale value, and is the lowest voltage required to be applied to the electro-optical material to obtain a range of the transmittance to be used for displaying images.

19. An electro-optical device, comprising:

an image processing circuit according to Claim 1; and

an electro-optical panel having an electro-optical material in which a transmittance of the electro-optical material is changed according to an applied voltage, and receiving the output image signal.

20. An electro-optical device according to Claim 19, the electro-optical panel further comprising:

a device substrate including a plurality of data lines, a plurality of scanning lines, switching devices disposed at the intersections of the plurality of data lines and the plurality of scanning lines, and pixel electrodes connected to the switching devices;

an opposing substrate having an opposing electrode; and

an electro-optical material sandwiched by the device substrate and the opposing substrate,

the reference potential being the potential of the opposing electrode, and

the output image signal being sequentially sent to the plurality of data lines.

21. An electronic apparatus comprising an electro-optical device according to Claim 19.

22. A projection-type display apparatus, comprising:

a light source;

an electro-optical device according to Claim 19 that modulates light emitted from the light source; and

a projection-lens system that projects light emitted from the electro-optical device.